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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,421	10/01/2003	Gee-Sung Chae	8734.241.00 US	5657

30827 7590 09/20/2007
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EXAMINER	
BODDIE, WILLIAM	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
09/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,421	CHAE ET AL.	
	Examiner	Art Unit	
	William L. Boddie	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,4,5,8-13,15 and 16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated, June 28th, 2007 the Applicant amended claims 1, 8, 10 and 12. Currently claims 1, 4-5, 8-13 and 15-16 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 28th, 2007 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 4-5, 8-13 and 15-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 4-5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. (US 6,069,678) in view of Lee et al. (US 6,281,953).

With respect to claim 1, Sakamoto discloses, an in-plane switching mode liquid crystal display device, comprising:

a plurality of gate lines (105 in fig. 24) and data lines (205 in fig. 24) defining a plurality of pixels;

a driving device (505 in fig. 24) in each of the pixels;

at least one pixel electrode (405 in fig. 24) having a predetermined width (clear from fig. 6) in each of the pixels; and

at least one common electrode (305 in fig. 24) having a predetermined width (Wcom in fig. 24) completely overlapping a data line (205 in fig. 24) in width (clear from fig. 24), the common electrode being substantially parallel to the pixel electrode (seems again clear from fig. 24),

wherein the driving device is a thin film transistor (505 in fig. 24) comprising:

a gate electrode (1405 in fig. 25) on a substrate (605 in fig. 25);

an insulating layer (2405 in fig. 25) over the gate electrode;

a semiconductor layer (1105, 2505 in fig. 25) on the insulating layer;

a source electrode (1005 in fig. 25) and a drain electrode (905 in fig. 25) on the semiconductor layer; and

a passivation layer (2605 in fig. 25) over the source electrode, drain electrode and semiconductor layer.

Sakamoto does not expressly disclose, wherein the pixel electrode is formed on the passivation layer.

Lee discloses forming an in-plane switching LCD (col. 1, lines 17-19) wherein a pixel electrode is formed on a passivation layer (col. 6, lines 11-16).

Lee and Sakamoto are analogous art because they are both from the same field of endeavor namely, design of pixel films in high aperture in-plane LCDs.

At the time of the invention it would have been obvious to one of ordinary skill to form the pixel electrode on the passivation layer of Sakamoto as taught by Lee.

The motivation for doing so would have been to protect the pixel electrode (Lee; col. 1, line 67 – col. 2, line 2) and to allow for a lowering driving voltage thereby conserving power (Lee; col. 6, lines 14-16).

With respect to claim 4, Sakamoto and Lee disclose, the device of claim 1 (see above).

Sakamoto further discloses, wherein the data lines (905 in fig. 25/ 205 in fig. 24) are formed on the insulating layer (2405 in fig. 25).

With respect to claim 5, Sakamoto and Lee disclose, the device of claim 1 (see above).

Sakamoto further discloses, wherein the common electrode (305 in fig. 26) is formed on the passivation layer (2605 in fig. 26).

With respect to claim 10, Sakamoto discloses, an in-plane switching mode liquid crystal display device, comprising:

a plurality of gate lines (105 in fig. 24) and data lines (205 in fig. 24) defining a plurality of pixels;

a driving device (505 in fig. 24) in each pixel;

at least one pixel electrode (405 in fig. 24);

a first common electrode (left electrode; 305 in figs. 24/27) completely overlapping a data line (205 in figs. 24/27) in width; and

at least one second common electrode in each pixel (center portion electrode in fig. 24),

wherein the pixel electrode has a predetermined width and is substantially parallel to the first and second common electrodes (clear from fig. 24).

Sakamoto does not expressly disclose, wherein the pixel electrode is formed on the passivation layer.

Lee discloses forming an in-plane switching LCD (col. 1, lines 17-19) wherein a pixel electrode is formed on a passivation layer (col. 6, lines 11-16).

Lee and Sakamoto are analogous art because they are both from the same field of endeavor namely, design of pixel films in high aperture in-plane LCDs.

At the time of the invention it would have been obvious to one of ordinary skill to form the pixel electrode on the passivation layer of Sakamoto as taught by Lee.

The motivation for doing so would have been to protect the pixel electrode (Lee; col. 1, line 67 – col. 2, line 2) and to allow for a lowering driving voltage thereby conserving power (Lee; col. 6, lines 14-16).

With respect to claim 11, Sakamoto and Lee disclose, the device of claim 10 (see above).

Sakamoto further discloses, wherein a width of the first common electrode is larger than that of the second common electrode (clear from fig. 24).

6. Claims 8-9, 12-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. (US 6,069,678) in view of Lee et al. (US 6,281,953) and further in view of Kim (US 6,969,872).

With respect to claim 8, Sakamoto discloses, an in-plane switching mode liquid crystal display device, comprising:

a plurality of gate lines (105 in fig. 24) and data lines (205 in fig. 24) defining a plurality of pixels;

a driving device (505 in fig. 24) in each of the pixels;

at least one pixel electrode (405 in fig. 24) having a predetermined width (clear from fig. 6) in each of the pixels; and

at least one common electrode (305 in fig. 24) having a predetermined width (Wcom in fig. 24) completely overlapping a data line (205 in fig. 24) in width (clear from fig. 24), the common electrode being substantially parallel to the pixel electrode (seems again clear from fig. 24),

wherein the driving device is a thin film transistor (505 in fig. 24) comprising:

a gate electrode (1405 in fig. 25) on a substrate (605 in fig. 25);

an insulating layer (2405 in fig. 25) over the gate electrode;

a semiconductor layer (1105, 2505 in fig. 25) on the insulating layer;

a source electrode (1005 in fig. 25) and a drain electrode (905 in fig. 25) on the semiconductor layer; and

a passivation layer (2605 in fig. 25) over the source electrode, drain electrode and semiconductor layer.

Sakamoto does not expressly disclose, wherein the pixel electrode is formed on the passivation layer.

Lee discloses forming an in-plane switching LCD (col. 1, lines 17-19) wherein a pixel electrode is formed on a passivation layer (col. 6, lines 11-16).

Lee and Sakamoto are analogous art because they are both from the same field of endeavor namely, design of pixel films in high aperture in-plane LCDs.

At the time of the invention it would have been obvious to one of ordinary skill to form the pixel electrode on the passivation layer of Sakamoto as taught by Lee.

The motivation for doing so would have been to protect the pixel electrode (Lee; col. 1, line 67 – col. 2, line 2) and to allow for a lowering driving voltage thereby conserving power (Lee; col. 6, lines 14-16).

Neither Lee nor Sakamoto expressly disclose, wherein the pasivation layer is formed of an organic material.

Kim discloses, a passivation layer is formed of an organic material (col. 6, lines 8-15).

Kim, Lee and Sakamoto are analogous art because they are all from the same field of endeavor namely, LCD pixel design and manufacture.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the organic material taught by Kim to form the passivation layers of Lee and Sakamoto.

The motivation for doing so would have been to provide good flatness characteristics and low permittivity (Kim; col. 6, lines 8-15).

With respect to claim 9, Sakamoto, Lee and Kim disclose, the device of claim 8 (see above).

Kim further discloses, wherein the passivation layer is formed of one of BCB (Benzo-Cyclo-Butene) and photoacryl (col. 6, lines 8-15).

With respect to claim 12, Sakamoto discloses, an in-plane switching mode liquid crystal display device, comprising:

a plurality of gate lines (105 in fig. 24) and data lines (205 in fig. 24) defining a plurality of pixels;

at least one first pixel electrode (405 in fig. 24) having a predetermined width in a first pixel (clear from fig. 24);

a first driving device (505 in fig. 24) in the first pixel;

at least one second pixel electrode having a predetermined width in a second pixel (clear from fig. 24 that the lines continue in all directions to more pixels);

a second driving device in the second pixel (clear from fig. 24 that the lines continue in all directions to more pixels);

a passivation layer (2605 in fig. 25) for insulating the first and second driving devices; and

at least one first common electrode (305 in fig. 24) having a predetermined width (Wcom in fig. 24) between the first and second pixel electrodes (clear from fig. 24), and on the passivation layer (305 on 2605 in fig. 26), the first common electrode being substantially parallel to the first and second pixel electrodes (clear from fig. 24).

Sakamoto does not expressly disclose, wherein the pixel electrode is formed on the passivation layer.

Lee discloses forming an in-plane switching LCD (col. 1, lines 17-19) wherein a pixel electrode is formed on a passivation layer (col. 6, lines 11-16).

Lee and Sakamoto are analogous art because they are both from the same field of endeavor namely, design of pixel films in high aperture in-plane LCDs.

At the time of the invention it would have been obvious to one of ordinary skill to form the pixel electrode on the passivation layer of Sakamoto as taught by Lee.

The motivation for doing so would have been to protect the pixel electrode (Lee; col. 1, line 67 – col. 2, line 2) and to allow for a lowering driving voltage thereby conserving power (Lee; col. 6, lines 14-16).

Neither Lee nor Sakamoto expressly disclose, wherein the passivation layer is formed of one of BCB (Benzo-Cyclo-Butene) and photoacryl.

Kim discloses, a passivation layer is formed of one of BCB (Benzo-Cyclo-Butene) and photoacryl (col. 6, lines 8-15).

Kim, Lee and Sakamoto are analogous art because they are all from the same field of endeavor namely, LCD pixel design and manufacture.

At the time of the invention it would have been obvious to one of ordinary skill in the art to use the organic material taught by Kim to form the passivation layers of Lee and Sakamoto.

The motivation for doing so would have been to provide good flatness characteristics and low permittivity (Kim; col. 6, lines 8-15).

With respect to claim 13, Sakamoto, Lee and Kim disclose, the device of claim 12 (see above).

Sakamoto further discloses, wherein the first common electrode (305 in figs. 24/27) completely overlaps a data line (205 in figs. 24/27).

With respect to claim 15, Sakamoto, Lee and Kim disclose, the device of claim 12 (see above).

Sakamoto further discloses, a second common electrode (center common electrode in fig. 24) in the first pixel for forming a horizontal electric field with the first pixel electrode (col. 1, lines 39-41; for example); and

a third common electrode in the second pixel for forming a horizontal electric field with the second pixel electrode (clear from fig. 24 that the lines continue in all directions to more pixels; and generate the same pixel design for all pixels).

With respect to claim 16, Sakamoto, Lee and Kim disclose, the device of claim 12 (see above).

Sakamoto further discloses, wherein a width of the first common electrode is larger than that of one of the second common electrode and the third common electrode (clear from fig. 24).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb
9/12/07

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